Amendments to the Specification:

Please replace paragraphs [0020], [0023], and [0024] with the following amended paragraph:

[0020] The flux application 110 applies or dispenses flux on a substrate which has pre-fabricated solder bumps. The flux contains at least a water soluble monomer or polymer. The flux application 110 may be a stencil printing fluxing, a spray fluxing, or any other suitable methods. The die placement 120 then picks, aligns and places a die onto the substrate. The die is an integrated circuit (IC) device or a chip. The die may be picked from a feeder, tape and reel and is positioned to align with the solder bumps on the substrate. The reflow ~~120~~ 130 forms the solder joints from the solder bumps and the flux in a reflow oven heated at a reflow temperature. The de-fluxing 140 removes the flux residues and cleans the solder joints. The under-fill dispensing 150 dispenses under-fill material around the die. The under-fill is allowed to flow and fill the gap between the flip-chip and the substrate.

[0023] In process 201, the flux 215 is printed on the pre-fabricated solder bumps ~~215~~ 220 on a substrate 210 utilizing a stencil 235 and a squeegee 230. In process 202, the flux 215 is dispensed onto the pre-fabricated solder bumps 220 on a substrate 210 utilizing a dispenser 225.

[0024] In both processes, the flux 215 includes a solvent, a water soluble polymer or monomer, a traditional flux agent such as organic acid if the polymer or monomer does not have fluxing capability, and other additives. The solvent may be organic solvent, water, or mixtures. The additives include surfactant, wetting agent, and viscosity modifier. When a monomer is used, it will polymerize to form a polymer during the reflow ~~120~~ 130. The polymer or the polymerized monomer has a melting point lower than the reflow temperature so that it will not affect the solder joint formation during the reflow process. The water soluble polymer may be any one of a polyacrylic acid, a polyacrylamide, a polyvinyl alcohol, a modified starch, and a modified cellulose

Amendments to the Abstract:

Please replace the Abstract with the Abstract that appears on the following page: